SECTION II:

CALIFORNIA PRIMARY COMMERCIAL SERVICE HUB AIRPORTS

California's Primary Commercial Service Hub Airports

State System Overview

There are thirteen Primary Commercial Service Hub airports in the State of California, out of 422 in the U.S. Nine of these thirteen facilities are located in either the Bay Region (3) or the Los Angeles / Desert region (6). The remaining four facilities service other large population centers of Fresno, Sacramento, San Diego, and Santa Barbara. Though relatively few in number, there is no doubt regarding the critical role they play in California's and the Nation's Air Transportation System. These thirteen facilities are listed below with their 2001 enplanements, the percent of the U.S. total enplanements, and national ranking in terms of enplanements:

	2001	Pct. U.S.	U.S.
Airport	Enplanements	Total.	Rank
Los Angeles International Airport	29,365,436	4.44	3
San Francisco International Airport	16,475,611	2.49	8
San Diego International Airport	7,506,320	1.14	30
Norman Y. Mineta San Jose International Airport	5,981,440	0.90	34
Metropolitan Oakland International Airport	5,566,100	0.84	37
Sacramento International Airport	4,021,102	0.61	44
John Wayne – Orange County Airport	3,688,304	0.56	45
Ontario International Airport	3,168,975	0.48	52
Bob Hope (Burbank – Glendale – Pasadena) Airport	2,250,685	0.34	62
Palm Springs International Airport	586,028	0.09	100
Fresno Yosemite International Airport	457,570	0.07	111
Santa Barbara Municipal Airport	363,581	0.05	128
Long Beach Airport/Daugherty Field	297,130	0.04	143
TOTALS	79,728,282	12.05	

Source: FAA ACAIS Reports (CY 1999-2001)

California's Primary Hub airports served approximately 12% of all passengers enplaned at the nations airports, with Los Angeles International and San Francisco International serving nearly 7% combined.

Industry Overview

The commercial aviation industry worldwide, and the airports on which the industry depend, are facing economic challenges unprecedented in the history of commercial aviation. Industry analysts have postulated that airlines have lost more money collectively in the last five to ten years than was lost in all the preceding 70 plus years combined! This has already impacted airports in several ways: reduced revenues from landing fees, vehicle parking, terminal leases; worsening bond ratings, delayed and or cancelled capital improvement projects. These impacts are coming as facilities are reaching their limits in terms of terminal, airfield, and airspace capacity and their ability to safely and effectively accommodate the needs of travelers and cargo shippers that depend on them. Easing capacity constraints resulting from post 9/11 industry impacts, economic recession, and industry impacts arising from the war in Iraq are only temporary effects that cannot begin to offset the more significant negative impacts. Even while many airports specializing in domestic travel have already rebounded to exceed pre-2001 passenger volumes, many specializing in international travel and freight have and continue to see serious drops in traffic. Are these changes temporary effects or do they represent

serious and permanent shifts in the commercial aviation marketplace? While it is too soon to say with any certainty, there is one unmistakable growth trend that was firmly entrenched prior to 2001: The demand for low fare air carrier service and the apparent inability of traditional major carriers to counter them profitably. In addition to providing service eliminated by other major airlines, carriers such as Southwest Airlines and Jet Blue have been able to actually provide new service to accommodate latent demand in markets either long dominated by major airlines or in areas where no previous service existed. Built on low labor and operations costs, fleet uniformity, and avoiding direct competition with major carriers in their primary markets, these carriers may be uniquely suited to weather turbulent economic periods. However, even these carriers have experienced temporary decreases in load factors and profitability. Their success in a recovered economy may depend in large part on the ability of traditional major carriers to survive until economic prosperity returns and the degree to which major carriers can compete in the areas low fare carriers excel.

Air cargo is also of critical importance to the state's and the nation's economy. Over 8 million tons of landed air cargo passed through California airports in 2001, nearly 12% of all U.S. air cargo. As passenger numbers again rise, air cargo operators based at primary commercial service hub airports may increasingly seek out other options such as former military bases with long runways, available land, and multi-modal surface access. The availability of these facilities (included in Section I discussion) to such operators presents a valuable opportunity to expand passenger capacity at primary commercial service hub airports and optimize overall state system capacity.

The outcome of these challenges will have a great deal to do with the immediate and future capacity needs of the state's Primary Commercial Service Hub airports. This in turn will directly relate to the nature and number of infrastructure improvements required at those 13 California facilities listed above.

With so much uncertainty in the industry, it is still important to analyze the various capacity enhancing infrastructure needs of Primary Commercial Hub airports in California. An interesting point supporting this is that in spite of the overall decrease in passenger traffic, California's share of overall passenger traffic has remained very steady, at around 12% of total U.S. passengers. A review of airport master plans provides some insight as to how the airports plan to address the constraints on their facilities. However these plans do not take into account the needs of the system of California airports. Therefore, the focus of this section is to identify need areas that impact the system and to suggest some alternative means of addressing them by utilizing excess capacity where it's available. As in the other sections, each region with a Primary Commercial hub airport will be reviewed with a focus in system infrastructure needs.

Airport Enhancement Needs by Functional Classification

Primary Large Hub Metropolitan Airports

Thee are three Primary Large Hub Metropolitan Airports in the state: Los Angeles International, San Diego International, and San Francisco International. All meet minimum standards except for Los Angeles International, which has a longest runway fifty feet too narrow. However the current Master plan calls for runway, taxiway, and terminal enhancements in order to accommodate future large aircraft. Thus rendering this current need insignificant. In 2001, the FAA completed the Airport Capacity Benchmark Report that targeted the relationship between airline demand and airport runway capacity at 31 of the nation's busiest airports, including Los Angeles International, San Diego International, and San Francisco International. References to the report's findings on these three airports are made in the discussion on each individual airport.

Primary Medium Hub Metropolitan Airports

There are six Primary Medium Hub Metropolitan Airports in the state: Bob Hope Airport (formerly Burbank-Glendale-Pasadena Airport), John Wayne-Orange County Airport, Metropolitan Oakland International Airport, Norman Y. Mineta San Jose International Airport, Ontario International Airport, and Sacramento International Airport. Both Burbank and John Wayne airports' longest runways are bounded by development to the extent that extensions to meet minimum standards are not feasible. Even if they were, community opposition to any such enhancement that could lead to increases in aircraft operations, size, noise and/or air quality impacts noise would be vehemently opposed. While these enhancements are desirable from a capacity point of view, they are even more critical from a safety standpoint. Previous accidents have illustrated the impact factors such as insufficient runway length, poor separation between runways, taxiways and terminal gate areas, and lack of appropriate associated protection zones can have on the degree of adverse outcomes arising from an accident or incident. Rated weight limits of the longest runways at both Burbank and Ontario airports are questioned.

Primary Small Hub Metropolitan Airports

There are four Primary Small Hub Metropolitan Airports in the state: Fresno-Yosemite International Airport, Long Beach Airport, Palm Springs International Airport, and Santa Barbara Municipal Airport. Of note, Palm Springs' need to have another instrument approach procedure should be nullified once the FAA installs an ILS approach as anticipated sometime in the next few years. To a degree, the criticality of this need is mitigated by the fact that Palm Springs Airport only experiences instrument meteorological weather conditions about 5% of the year. Still, operations during that 5% of the time will be enhanced once a second instrument approach procedure is in place.

Table 12

COMMERCIAL-PRIMARY HUB AIRPORTS

FACILITY AND MINIMUM STANDARDS MET/UNMET	LONGEST RUNWAY LENGTH	RUNWAY PAVEMENT CONDITION	LONGEST RUNWAY WIDTH	VASI PAPI INSTALLED	AVAIALBLE FUEL GRADES	LONGEST RUNWAY WEIGHT RATING	ON FIELD WEATHER SERVICES	INSTRUMENT APPROACH PROCEDURE	NUMBER OF INSTRUMENT APROACHES
COMMERCIAL PRIMARY LARGE HUB						ı			
LOS ANGELES INTERNAT'L		CONC-G		VASI	100LLA	175000		ļ	15
SAN DIEGO INTERNATIONAL	12091	CONC-G	200	PAPI	100 100LLA	100000	YES	ILS	4
SAN FRANCISCO INT'L.	11870	ASPH-G	200	PAPI	100LLA	60000	YES	ILS	11
COMMERCIAL PRIMARY MEDIUM HUB									
BOB HOPE AIRPORT (BURBANK- GLENDALE-PASADENA AIRPORT)	6885	ASPH-G	150	PAPI	100LLA MOGAS	30000	YES	ILS	7
JOHN WAYNE - ORANGE CO.	5700	ASPH-G	150	VASI	100LLA	70000	YES	ILS	8
METRO. OAKLAND INT'L.	10000	ASPH-G	150	VASI	100LLA	200000	YES	ILS	11
NORMAN Y. MINETA SAN JOSE INT'L	11000	CONC	150	PAPI	100LLA	60000	YES	ILS	9
ONTARIO INTERNATIONAL	12198	CONC-G	150	PAPI	100LLA	30000	YES	ILS	12
SACRAMENTO INTERNATIONAL	8600	ASPHCO NC	150	PAPI	100LLA	100000	YES	ILS	8
COMMERCIAL PRIMARY SMALL HUB									
FRESNO YOSEMITE INTERNATIONAL	9222	ASPH-G	150	VASI	100 A	70000	YES	ILS	9
LONG BEACH (DAUGHERTY FIELD)	10000	ASPH-G	200	PAPI	100LLA	30000	YES	ILS	4
PALM SPRINGS INTERNATIONAL	9375	ASPH-G	150	VASI	100LLA	105000	YES	GPS	1
SANTA BARBARA MUNI.	6052	ASPH-G	150	VASI	100LLA	110000	YES	ILS	2
LEGEND: BLACK TEXT Meets Minimum Standard RED TEXT – Enhancement Need Area GRAY CELL – Unknown/Unverified data									

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Bay Area Region Primary Commercial Hub Airports

Regional Overview

Of the three Primary Commercial Hub Airports in the region, San Francisco International (SFO) is the dominant facility and serves as a vital link between domestic and international operations. San Jose and Oakland have picked up an increasing share of international operations as SFO's operations capacity has approached maximum, but both remain primarily domestic hubs.

Facility Overview

San Francisco International (SFO)

SFO is owned and operated by the county and city of San Francisco, yet is located on 5,270 acres in San Mateo County. The airfield system occupies approximately 1,700 acres. Due to the proximity of parallel runways to one another, the airport faces recurring periods of reduced operations capacity during times when operations must be conducted under instrument meteorological conditions, a frequent occurrence. During such times, operations are constrained to 30 per hour instead of 60 per hour conducted during conditions of good weather. The FAA's 2001 Capacity Benchmark Report ranked SFO fourth worst in terms of the number of flights delayed more than 15 minutes, and second worst in total arrival delay. Additionally, the report stated demand was expected to grow faster than capacity, resulting in even more frequent and longer delays. The study also identified airline aircraft fleet mix as a critical determinant of capacity at SFO. Capacity concerns led the airport to undertake a runway reconfiguration study in 1998 that proposed a number of alternatives to maximize operations capacity during times of inclement weather. Most of the preferred alternatives would cause significant environmental impacts on habitats near the airport, and thus were challenged. The study has been placed on indefinite hold due to these issues and political and post 9/11 economic realities. Addressing this still-anticipated capacity shortfall remains a top future priority for this facility.

Metropolitan Oakland International Airport (OAK)

OAK is located on 2,445 acres operated by the Port of Oakland. The airfield is unique in its layout and operation. The airport operates almost as two separate airports with their respective air traffic control towers. The south airfield consists of a single air carrier runway for air carrier aircraft. The north airfield has three runways for GA use. On a smaller scale, Oakland faces many of the same capacity constraints facing San Francisco. Proposals for a second air carrier runway regularly suggest the option of filling in areas of the bay to accommodate a second air carrier runway. Naturally, the same environmental concerns that instilled resistance to SFO's reconfiguration study are likely to impede the ability of Oakland to win support for such an alternative.

Norman Y. Mineta San Jose International Airport (SJC)

Operated by the City of San Jose, SJC is located on approximately 1,000 acres. The lack of additional land is a constraint on the airport's future expansion. To accommodate the commercial aviation growth as specified within its Master Plan, SJC will eliminate some of the existing GA facilities, convert existing non-aviation land uses to aviation purposes, and construct multi-level parking garages in place of surface parking. A recently completed extension to one runway's overrun areas at each end provides additional capacity by enabling large air carrier aircraft to operate at their maximum fuel and passenger loads on international flights to and from the airport.

Central California Region Primary Commercial Hub Airports

Regional Overview

The region has two Primary Commercial Hub airports: Sacramento International and Fresno Yosemite International. In addition to those facilities, the following six airports provide regularly scheduled passenger service: Meadows Field, Modesto City-County, Merced Municipal, Stockton Metropolitan, Visalia Municipal, and Inyokern.

Facility Overview

Sacramento International Airport (SMF)

Sacramento International Airport is the primary air carrier airport in the Central California Region. Sacramento International Airport completed construction of a new passenger terminal in 1998. This terminal has the capacity to provide up to 22 new passenger gates. With the new terminal, the airport has a service capacity of some 8,420,000 annual enplanements, or 16.8 MAP. The airport has a \$70 million parking garage under construction to be completed in 2004.

Fresno Yosemite International Airport (FAT)

Fresno Yosemite International Airport is the second busiest airport in the Central California Region. The growing presence of regional jet airliners throughout the industry has meshed with Fresno's growth process quite well and the airport has become an ever more important commercial transportation node in the central California Region. At the same time, the airport's well-rounded facilities and central location continue to appeal to a wide range of general aviation operators. The airport also hosts a fighter wing from the California Air National Guard and a major Army National Guard helicopter maintenance facility.

Central Coast Region Primary Commercial Hub Airports

Regional Overview

Of the 14 public-use airports in the Central Coast region, Santa Barbara Municipal is the only Primary Commercial Service Hub airport. Additionally, Monterey Peninsula, San Luis Obispo, and Santa Maria all have regularly scheduled passenger service.

Facility Overview

Santa Barbara Municipal Airport

Santa Barbara Municipal Airport has recently completed airfield improvements and has planned a terminal expansion. With both, the facilities' capacity is expected to be adequate for future growth.

Los Angeles / Desert Region Primary Commercial Hub Airports

Regional Overview

This region is the most populated in the state and supports the world's largest and most complex regional aviation system. Regional aviation capacity issues will reach the critical stage in this region before any other region in California. The Southern California Association of Government's 2001 Regional Transportation Plan's Aviation Element identified capacity expansion at Los Angeles International and new capacity available through the anticipated conversion of El Toro From military to commercial use as the primary means to address the rapidly growing regional demand for commercial air service, estimated to be 167.9 million annual passengers by 2025. Since then, local ballot measures passed specifying that El Toro be converted to a regional park rather than a commercial service airport. Additionally, as a result of security concerns the proposed preferred alternative in Los Angeles International Airport's Master Plan was amended to provide enhancements to security and safety without growing the airport. Capacity expansion is capped at 78 MAP under this alternative. Together, these changes reduced the passenger capacity SCAG was projecting for the region by approximately 50 MAP (29.7%). Obviously, making up this capacity gap presents a great challenge. With so many commercial service facilities in the region, the opportunity exists to implement an effective regional approach to meeting regional commercial air service demand. However, contrasting public opinion's and goals of various airport sponsors make obtaining regional consensus difficult. Even with a regional consensus, necessary cooperation from airlines may be difficult if not impossible to obtain.

Facility Overview

There are six Primary Commercial Hub airports in the Los Angeles Desert Region: Burbank-Glendale-Pasadena, John Wayne-Orange County, Long Beach, Los Angeles International, Ontario International and Palm Springs International.

Los Angeles International Airport (LAX)

The FAA's 2001 Capacity Benchmark Report indicated that current capacity was generally adequate except during adverse weather conditions. However, projected growth of demand at LAX was expected to significantly increase delays. As previously mentioned, the 2003 preferred master plan alternative would improve safety and security but limit growth of the airport to 78 MAP. The airport currently operates at around 68 MAP. The improvements related to capacity expansion (and safety) have mainly to do with adding aircraft gates and increasing runway, taxiway, and gate dimensions to accommodate very large commercial jetliners, including the 500-800 seat Airbus A380 scheduled to enter service in 2005. Airfield efficiencies to be gained from improved ground handling are also seen as enhancing capacity.

Ontario International Airport (ONT)

The airport opened a \$269 million 26-gate terminal complex in September 1998. The new terminal doubles the existing capacity of the airport and can handle up to 10 million passengers per year. The old terminal built in 1961 was designed to serve three million passengers per year. Ontario is currently in the process of determining the future of the old terminal complex, whether it will be remodeled or torn down. The airport is currently under a restriction imposed by the California Air Resources Board to limit the number of passengers to 12 MAP, or 125,000 aircraft operations per year. This is not necessarily permanent, as long as an acceptable air quality mitigation plan is submitted for a new air quality permit. Ontario is expected to carry an increasing share of passengers from the growing Riverside and San Bernardino Counties, especially since El Toro is not to be developed as an airport.

Bob Hope Airport (formerly Burbank-Glendale-Pasadena Airport) (BUR)

The airport's plan to relocate to a new larger passenger terminal further from the runways has been put on hold. These enhancements have little to do with improving capacity, though they are critical to improving safety. The airport operates under a voluntary curfew, and noise issues have been the source of much debate and litigation.

John Wayne Airport, Orange County (SNA)

The airport has not completed any capacity enhancement projects within the last two years, nor are there any future projects. The current passenger cap agreement sunsets in 2005 and is to be extended and include an expansion of passenger capacity to 10.3 million annual passengers (MAP) until 2011 when it would be increased to 10.8 MAP.

Long Beach Airport/Daugherty Field (LGB)

Long Beach has seen its passenger traffic grow steadily, though it is constrained by a cap on aircraft slots (41/day). This limitation is rooted in noise concerns. For a time many slots went unused. Recently however, Jet Blue, Alaska/Horizon, and American Airlines have been granted use of several of these slots, opening new markets at the facility. A new terminal is considered a high priority. Capacity expansion may depend on an interpretation of noise ordinances that might allow more flights as long as the aggregate noise level is not increased.

Palm Springs International Airport (PSP)

The airport recently completed remodeling the passenger terminal. This project added eight new gates along with 640,000 square feet of additional space to the present terminal layout. As part of this expansion, one of the runways was extended an additional 1,500 feet.

San Diego Region Primary Commercial Hub Airports

Regional Overview

San Diego International is the region's only primary commercial hub airport. It and McClellan-Palomar are the only two airports in the region that receive regularly scheduled passenger service. San Diego County faces a commercial airport capacity shortfall in the next 20 years. The newly formed San Diego County Regional Airport Authority is the lead agency on the Air Transportation Action Plan. Its purpose is to identify and put to a public vote the best strategy for servicing regional demand for air transportation, by expanding San Diego International, other existing airports, building a new airport, or any combination thereof.

Facility Overview

San Diego International Airport (SAN)

San Diego International Airport is the region's only Primary Commercial Hub Airport. According to the 12/2/98 San Diego International Airport <u>Draft Master Plan Working Paper No. 1 (Inventory)</u>, the airport is the busiest one-runway commercial service airfield in the country in terms of runway utilization. Located on approximately 600 acres, the airport is severely constrained in terms of increasing capacity and also by surrounding incompatible land uses. Its downtown location is convenient for the majority of travelers passing through it, but means that it is surrounded by developed land and its operations inevitably impact local residents. In fact, a night curfew resulting from these noise impacts presents a further capacity constraint. The airport's sponsor, the newly created San Diego County Regional Airport Authority has continued the process of identifying and selecting the best alternative approaches to meeting regional commercial air service demand through 2030 through the Air Transportation Action Plan. The date for the release of the final draft report has not been released as of yet. In the interim, the master plan has specified terminal and gate expansions, including new facilities on the north side of the airport, to increase capacity. The FAA's 2001 Capacity Benchmark Report identified SAN as generally doing well to meet demand, though future growth in demand may increase delays somewhat.